

Mental statuses of nursing students in the Covid-19 pandemic period: A systematic review

The mental statuses of nursing students in the Covid-19 pandemic period

Sevgi Keskin¹, Birgül Özkan²

¹Graduate Program of Mental health and Nursing, Ankara Yıldırım Beyazıt University, Institute of Health Sciences

²Department of Nursing, Mental health and Nursing, Ankara Yıldırım Beyazıt University, Faculty of Health Sciences
Ankara, Turkey

This study was presented as an oral presentation at the 4th International Nursing and Innovation Congress(19/12/2020).

Abstract

This research is a systematic review conducted to evaluate nursing students' mental status in the COVID-19 pandemic period. The study was conducted by scanning Cochrane, Science Direct, PubMed, and Google Academic databases. The index of COVID-19 and Nursing Students, Nursing Students in the Pandemic, Anxiety in Nursing Students were the English keywords. Thirteen articles meeting the evaluation criteria were reviewed. According to the results obtained from the studies evaluated, nursing students experienced mental problems such as anxiety, stress, depression, decreased self-esteem, and emotional exhaustion in the COVID-19 pandemic period.

Keywords

COVID-19; Nursing Students; Anxiety; Stress

DOI: 10.4328/ACAM.20654 Received: 2021-04-11 Accepted: 2021-06-07 Published Online: 2021-06-16 Printed: 2021-06-15 Ann Clin Anal Med 2021;12(Suppl 2): S245-249

Corresponding Author: Sevgi Keskin, Ankara Yıldırım Beyazıt University, Esenboğa Külliyesi, Esenboğa/Ankara/Turkey.

E-mail: kskn.sevgi@hotmail.com P: +90 (312) 324 15 55

Corresponding Author ORCID ID: <https://orcid.org/0000-0002-9827-7125>

Introduction

SARS-CoV-2 spread first across China, then to Asian countries, America, Africa, and European countries. As a result of the rapid spread of this virus, the WHO declared a global epidemic (pandemic) on March 11, 2020 [1,2]. Similar to many countries, Turkey has also resorted to isolation methods aimed at the prevention of the virus. These methods were in the form of home isolation, social distance, closing of businesses, including schools/universities, and travel restrictions [3]. There have been many changes regarding the pandemic and educational processes at universities have been affected by it. How nursing students are affected mentally by the changing educational processes has been evaluated as an important issue.

Under normal conditions, nursing education includes challenging and intense processes. Students who receive this training naturally continue to go through a difficult education process while experiencing various mental problems simultaneously. It is observed that students generally experience anxiety during nursing education. Complex interpersonal relationships, difficulties of the clinical environment [4], and caring for chronic and terminally ill patients [5] may cause more anxiety among nursing students than any student from other health disciplines [6]. It is stated that nursing students mostly experience anxiety about academic performance, pressure to be successful, and post-graduation plans [7]. In addition to the problems that students usually experience during their education process, it is thought that their mental status is also affected due to the increasing problems they experience in the pandemic process. Therefore, it is crucial to investigate this issue and determine how their mental statuses are affected.

Although the interruption of education in the COVID-19 pandemic period is an unexpected situation among nursing students, clinical applications could not be performed or were partially performed. It is observed that this situation caused anxiety in nursing students. Nursing education mostly consists of clinical practices, and it is not clear when, where, and how compensatory clinical education will be performed. Therefore, nursing students may develop the idea that their own clinical skills will be inadequate and experience more anxiety.

Anxiety is a disturbing emotion and experience that affects people's lives [8]. Although anxiety arises from the threat of self-integrity, it can also arise as a result of the reflection of various events on the individual [9]. In a study in which 140 first, second, and third-year nursing students participated, it was reported that 82% of the participants experienced tension due to uncertainty related to the hospital environment and fear of making a mistake and academic failure, and that 63% tried to cope with these problems [10].

In the course of COVID-19, the uncertainty brought about by the pandemic process and the limitations in their social life cause nursing students to worry and experience more stress as a result. A study conducted revealed that nursing students perceived stress at a moderate level in the COVID-19 pandemic period. In addition, it was found that watching the news, feeling anxious about the risk of infection, and curfews affected their stress levels [3].

Depression is a syndrome in which the individual feels worthless, weak, reluctant, and pessimistic, along with a

slowdown in thought, speech, and movements in a deeply sad emotional state [11,12]. A study to determine the depression levels of nursing students revealed that the students with a risk of depression were 33.3% (Temel E, Bahar A, Çuhadar D. Determination of coping attitude with stress and depression level of nursing students. This work, XIV. Presented as a poster at the National Biotechnology Congress (31 August-2 September 2005 in Eskişehir). Another study found that 25% of the 334 nursing students who participated in the study were at risk for depression [13].

This study aims to compile the results of studies dealing with nursing students' mental status during the COVID-19 pandemic period and contribute to the literature.

Material and Methods

This study was conducted to examine the results of studies that determined nursing students' mental status in the COVID-19 pandemic period. The study covers studies conducted on nursing students. The most recent scanning process, which was in January 2021, was carried out by checking Cochrane, Science Direct, PubMed, and Google Academic databases. In this study, searches were carried out by combining the search terms "COVID-19", "nursing students", and "pandemic." Thus, the keywords in English were the index of COVID-19 and Nursing Students, Nursing Students in the Pandemic, Anxiety in Nursing Students.

Within the scope of the inclusion criteria, full text-articles of the studies examining the mental problems experienced by nursing students in the pandemic period were accessed. Inclusion criteria were determined in accordance with PICO [P (Patient/Population/Problem), I (Intervention/Indicator), C (Comparison of Intervention), O (Outcome of Interest)]. Accordingly, studies considered were those that evaluated the concern, anxiety, stress, and depression levels of nursing students, operating in the COVID-19 pandemic period and applying social isolation, receiving distance education in initiatives, complying with social isolation rules, using personal protective equipment (Table 1).

The investigations with the determined keywords on this subject were conducted in four databases. Relevant titles and abstracts were examined (n = 1934). Those suitable for the study were determined (n = 75) among them, and duplicates were deleted (n = 2). After obtaining the full texts of the remaining studies, articles meeting the inclusion criteria were selected (n = 13) (Figure 1).

Results

Thirteen research articles were examined in this study. One of the articles was written in Turkish (Okuyan et al., 2020), and the others in English. The findings obtained from the studies were presented under the titles of "country characteristics," "sample characteristics," "methods and techniques used," "measurement tools."

Country characteristics of the studies

The distribution of studies by countries and the results are discussed in this section. Six of the studies were conducted in Turkey (Okuyan et al., 2020; Akman et al., 2020; Aslan et al., 2020; Ersin et al., 2020; Uğurlu et al., 2020; Cici et al., 2020), two in Spain (Gomez et al., 2020; Villarroya et al., 2021), two in

Israel (Savitsky et al., 2020; Savitsky et al., 2020), and others, respectively, in the United States (USA) (Keener et al., 2020), in Egypt (Eweida et al., 2020) and China (Sun et al., 2020).

Sample Characteristics of the Studies

This section contains results regarding the sample characteristics of the studies examined.

In their studies, Okuyan et al. (2020) [14] included 305 students enrolled in the nursing faculty of a university, Akman et al. (2020) [15] included 105, Aslan and Pekince (2020) [3] 662, and Ersin and Kartal (2020) [16] 372 nursing students. In addition, Uğurlu et al. (2020) [17] carried out their study with 411 students, and Cici and Yilmazel (2021) [18] with 322 first-year students. Gomez et al. (2020) [19] included 138 second-year students studying nursing, while Villarroya et al. (2021) [20] included 305 first-year nursing students and carried out an application on the same students in 2020 (in their fourth year). Savitsky et al. (2020) [6] included 244 nursing students in their study. In another study conducted, Savitsky et al. (2020) [21] included 244 first and fourth-year students studying in the nursing department. Keener et al. (2020) [22] included 150, Eweida et al. (2020) [23] 152, and Sun et al. (2020) [25] 474 nursing students in their studies.

Methods and Techniques Used in the Studies

In this systematic evaluation, 13 studies that directly investigated the mental statuses of nursing students were examined. Descriptive design was used in five of these studies, cross-sectional design in five, cross-sectional and descriptive design in two, and observational design in one. Questions used in the studies were delivered to the participants electronically in twelve studies. In one study, the questions were delivered both face-to-face and electronically, since the questionnaire used consisted of two stages, and the first stage was carried out in 2017. The aim of the first article reviewed was the health anxiety of nursing students of COVID-19 to determine the effect on the levels (n=305) [14]. The aim of the second article is to examine the anxiety levels among nursing students in relation to the COVID-19 pandemic that is affecting them (n=198, working group: 105) [15]. In the third article, the aim was to evaluate the views of nursing students about the COVID-19 outbreak and their perceived stress levels (n= 662) [3]. The aim of another article was to determine the perceived stress levels and health protective behaviors of nursing students during the COVID-19 pandemic (n=372) [16]. The examination of the relationship between nursing students' depression, anxiety and stress levels and restrictive, emotional, and external eating behaviors in COVID-19 socialisolation process was made in the article by Uğurlu et al. (2020) (n= 438), working group: 411) [17]. The aim of another article was to determine the anxiety levels of nurse candidates in the COVID-19 pandemic and to examine their perspectives in the nursing profession (n= 461, working group: 322) [18]. The purpose of the article by Gomez et al. (2020) was to evaluate the stress levels of nursing students in the COVID-19 epidemic (n=148, working group: 138) [19]. In the article by Villarroya et al. (2021) the aim was to examine whether the pandemic affects the mental health of senior nursing students (n=305) [20]. In the article by Savitsky et al. (2020) the aim was to evaluate anxiety levels and ways of coping among nursing students (n=244) [21]. In the tenth article,

the aim was to compare the changes in anxiety levels and coping strategies when the restrictions were lifted with the period of application of the most severe restrictions (n=244) [6]. The aim of the eleventh article was to examine the relationship between quality of life, resilience, and related factors among nursing students during the COVID-19 outbreak and the subsequent social distancing needs (n=152) [22]. In the twelfth article, the aim was to examine the mental tension among nursing trainee students and changes in the psychological health center during the COVID-19 pandemic (n=150) [23]. In the thirteenth article, the aim was to evaluate nursing students' understanding of preventing COVID-19, as well as their concerns about the disease and their perception of their professional identity after the pandemic (n= 474) [24].

Characteristics of the Measurement Tools

The studies examined in this section evaluated the effect of the COVID-19 pandemic period on the mental health of nursing students using various methods and measurement tools.

In their study, Okuyan et al. (2020) collected data on students' sociodemographic characteristics and their knowledge about the pandemic, what kind of support they needed in the process, their thoughts about it, and how they were affected by being obliged to stay at home due to the pandemic. The researchers used the "Health Anxiety Level Inventory." In the study carried out by Akman et al. (2020), the data were collected through the "Sociodemographic and COVID-19 Pandemic Form" to measure the knowledge and attitudes of nursing students towards COVID-19 and the "State and Trait Anxiety Inventory" in order to determine the level of anxiety. In the study by Aslan et al. (2020), the "Perceived Stress Scale (PSS)" was employed in the data collection stage to measure how stressful the students perceived their situation. In Ersin and Kartal's (2020) study, the data were obtained by using the "Personal Information Form," which included the students' school year, age, gender, marital status, income level, perceived health, chronic disease status, smoking status, regular exercise status, regular sleep, and regular nutritional status as well as their level of knowledge about COVID-19, and the "Perceived Stress Scale" (PSS) to measure how stressful the students perceived their situations. The study of Uğurlu et al. (2020) obtained data with the "Personal Information Form," "Depression, Anxiety and Stress Scale (DASS-42)," and "Dutch Eating Behavior Questionnaire (DEBQ)." In the study conducted by Cici and Yilmazel (2020), the data were collected using "Personal Information Form," "State Anxiety Scale," and "Beck Anxiety Inventory."

In the study by Gomez et al. (2020), the data were collected using the "Student Stress Inventory" to determine the stress levels of the students. In the study carried out by Villarroya et al. (2021), the data were obtained using the "General Health Questionnaire," "Emotional Exhaustion Scale (EES)," "Rosenberg Self-Esteem Scale," and "Sense of Coherence Scale" to measure students' stress, burnout, and self-esteem.

The study by Savitsky et al. (2020) obtained data using the 'Generalized Anxiety Disorder 7-Item Scale' to measure the students' anxiety levels. Again, in another study by Savitsky et al. (2020), the data were collected with the "Questionnaire Form."

The study of Keener et al. (2020) obtained data using the "World

Health Organization Quality of Life-BREF,” “Connor Davidson Resilience Scale,” and “Questionnaire Form.”

In the study by Eweida et al. (2020), the data were collected using the “MERS-CoV Personnel Questionnaire” and the “General Health Questionnaire (GHQ-12)” in order to determine the feelings of the participants and the factors that caused stress in the participants.

In the study by Sun et al. (2020), the data were obtained with the “Questionnaire Form” used to determine the factors affecting anxiety in the students.

Conclusion and Recommendations

As a result of the literature review, it was determined that in the COVID-19 pandemic, nursing students experienced mental problems such as anxiety, stress, depression, decreased self-esteem, and emotional exhaustion.

The study by Okuyan et al. (2020) determined that 67.9% of nursing students indicated that distancing from recreational and social life affected them the most, and 66.6% of them stated that they most needed psychological support in the pandemic process. It was determined that nursing students had high levels of health anxiety in the pandemic process.

The students were adversely affected by staying at home due to the pandemic, felt overwhelmed and nervous, and experienced the fear of infection and fear of death. In the study by Akman et al. (2020), when the state anxiety levels of nursing students were examined, it was determined that 41.90% had mild anxiety, 45.71% had moderate anxiety, and 12.38% had severe anxiety. When trait anxiety levels were examined, it was determined that 14.28% had mild anxiety, 80.95% had moderate anxiety, 4.76% had severe anxiety, and it was found that there were no students who did not experience anxiety. It was determined that as the level of knowledge of nursing students about coronavirus increased, so did the trait anxiety level. Their level of trait anxiety decreased as they found effective hand washing sufficient to prevent coronavirus infection. As anxiety levels about the coronavirus infection increased, both state and trait anxiety scores increased. As their concerns about infecting family members increased, their levels of state anxiety increased. In the study by Aslan et al. (2020), it was found that the stress levels of the female students between the ages of 18-20 were high, and that watching the news, anxiety about infection risk, and curfew increased the stress levels of the students. Ersin and Kartal’s (2020) study determined that the perceived stress subdimension mean scores of the female students, students who indicated their income levels as poor, perceived their health as bad, had chronic diseases, did not sleep, and eat regularly, and did not wear masks and used disposable wipes during coughing/sneezing were statistically significantly higher. In the study conducted by Uğurlu et al. (2020), mild anxiety symptoms were determined in 17.8% of the students and mild stress symptoms in 29.7%. It was determined that the stress levels of the female students were high, the level of depression increased with age, the stress level of students staying with their families during the social isolation process was high, the level of depression decreased as the number of people living together at home increased, and that eating behaviors increased as the level of depression increased in the students. The study by Cici and Yilmazel (2020) determined

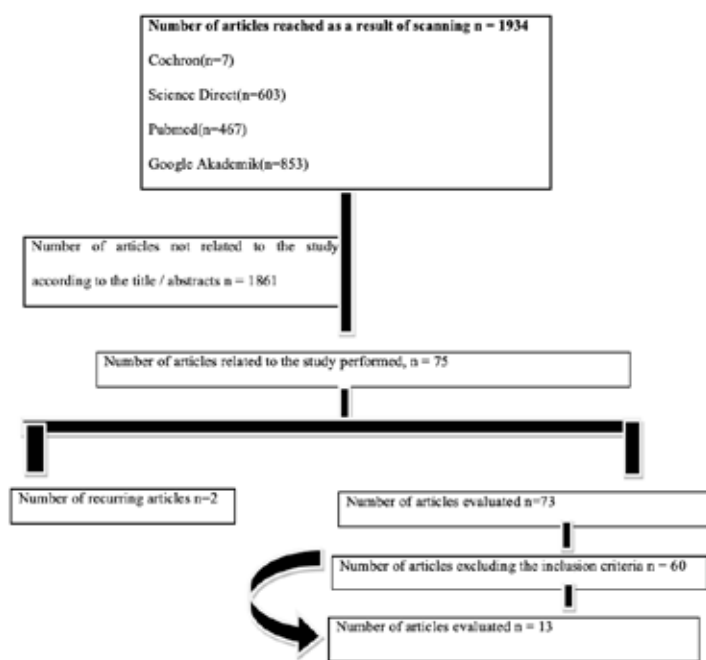


Figure 1. Study selection process flowchart

Table 1. Search terms used in PICO research

PICO	Search Terms
P(Patient/ Population/Problem)	Nursing students
I(Intervention/ Indicator)	Covid 19, Social isolation
C(Comparison of Intervention)	Distance education, Social isolation, Personal protective equipment
O(Outcome of Interest)	Anxiety, Depression

that the students’ positive views about the nursing profession before the pandemic decreased from 63.4% to 50.6%,and there was a significant increase in the anxiety scores of students with a negative perspective towards the profession and a reluctance to practice their profession in the future.

The study by Gomez et al. (2020) determined that the students’ stress levels increased significantly when the periods before and after the restrictions were compared. In the study by Villarroya et al. (2021), it was determined that the pandemic period caused a decrease in self-esteem and led to emotional exhaustion in nursing students.

The study of Savitsky et al. (2020) revealed that fear of infection increased the level of anxiety in the students and that the students who gained flexibility had low anxiety levels. Another study by Savitsky et al. (2020) concluded that restrictions increased the anxiety level of the students.

The study by Keener et al. (2020) concluded that nursing students were not flexible enough and had poor quality of life. In the study conducted by Eweida et al. (2020), it was determined that the possibility of contracting the COVID-19 infection and infecting their families with the disease was a serious stress factor in the students, and that 77.3% of them felt tense, worthless, and depressed (64.7%, 62.7%).

The study by Sun et al. (2020) determined that the students experienced anxiety in the pandemic period and that this anxiety harmed the professional identity of nursing. In line with these results obtained, it is recommended to create

psychological counseling units to serve students, considering that the mental statuses of nursing students are negatively affected in the pandemic period. In addition, it is recommended that training, conferences, courses, etc., which include effective coping methods in cases such as epidemics, should be organized for nursing students.

Discussion

According to the studies reviewed in this review; It has been determined that nursing students experience mental problems such as anxiety, stress, depression and emotional exhaustion during the pandemic process. However, it is seen that the psychological state of nursing students who continue their undergraduate education can be affected by their gender, age, and the characteristics of the individuals they live with.

According to the results obtained, the establishment of psychological counseling units for nursing students during the pandemic process, training including effective coping methods, conferences, etc. It is recommended that the programs be organized both face-to-face and online.

Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

Funding: None

Conflict of interest

None of the authors received any type of financial support that could be considered potential conflict of interest regarding the manuscript or its submission.

References

- Hvang L, Lei W, Xu F, Liu H, Yu L. Emotional responses and coping strategies in nurses and nursing students during the COVID-19 outbreak: a comparative study. *PLoS One*. 2020; 15(8). DOI: 10.1371/journal.pone.0237303
- Cervera-Gasch A, Gonzalez-Chorda VM, Mena-Tudela D. COVID-19: Are Spanish medical and nursing students prepared? *Nurse Educ Today*. 2020; 92. DOI: 10.1016/j.nedt.2020.104473.
- Aslan H, Pekince H. Nursing students' views on the COVID-19 pandemic and their perceived stress levels. *Perspect Psychiatr Care*. 2020; DOI: 10.1111/ppc.12597
- Chen C-J, Chen Y-C, Sung H-C, Hsieh T-C, Lee M-S, Chang C-Y. The prevalence and related factors of depressive symptoms among junior college nursing students: a cross-sectional study. *J Psychiatr Ment Health Nurs*. 2015; 22(8):590-8.
- Sancar B, Saba YA, Açıkgöz İ. An examination of anxiety levels of nursing students caring for patients in terminal period. *Pakistan J Med Sci*. 2018; 34(1):94-9.
- Savitsky B, Findling Y, Ereli A, Hendel T. Anxiety and coping strategies among nursing students during the Covid-19 pandemic. *Nurse Education in Practice*. 2020; 46:1-7.
- Beiter R, Nash R, McCrady M, Rhoades D, Linscomb M, Clarahan M, et al. The prevalence and correlates of depression, anxiety, and stress in a sample of college students. *J Affect Disord*. 2015; 173:90-6.
- Erhan DS, Çalmaz A, Açıık Y. The relationship between anxiety level and health, social and demographical factors in the students of a newly established university in Eastern Anatolia. *Dicle Medical Journal*. 2012; 39(2):189- 96.
- Seviç S, Özdemir S. Relationship between nursing students' anxiety and hopelessness: Killis example. *Journal of Nursing Research and Development*. 2017;19(2):14-24.
- Çınar F, Oğuz M. Evaluation of Turkey's Covid-19 Swot analysis of strategy for pandemic. *Journal of Health and Social Welfare Research*. 2020; 2(2):1-11.
- Gümüş F, Zengin L. Anxiety, depressive symptom frequency and related factors in nursing students. *Van Medical Journal*. 2018; 25(4):527- 34.
- Taycan O, Kutlu L, Çimen S, Aydın N. Depression in nurses working at a university hospital and relationship of burnout level with sociodemographic

characteristics. *Anadolu Journal of Psychiatry*. 2006; 7:100-8.

- Kaçan SH, Kaya S. The investigation of factors affecting the health faculty students' depression levels. *Gümüşhane University Journal of Health Sciences*. 2013; 2(2):214- 29.
- Birimoğlu OC, Karasu F, Polat F. The effect of Covid-19 on health anxiety levels of nursing students. *Van Journal of Health Sciences*. 2020; 13 (Special Issue):45-52.
- Akman Ö, Yıldırım D, Sarıkaya A. The effect of Covid-19 pandemic on nursing students' anxiety levels. *IGUSABDER*. 2020; 12:379-97.
- Ersin F, Kartal M. The determination of the perceived stress levels and health-protective behaviors of nursing students during the Covid-19 pandemic. *Perspect Psychiatr Care*. 2020; 1-7.
- Kalkan UY, Mataracı D, Durgun H, Gök UH. The examination of the relationship between nursing students' depression, anxiety and stress levels and restrictive, emotional, and external eating behaviors in Covid-19 social isolation process. *Perspect Psychiatr Care*. 2020; 1-10.
- Cici R, Yılmazel G. Determination of anxiety levels and perspectives on the nursing profession among candidate nurses with relation to the Covid-19 pandemic. *Perspect Psychiatr Care*. 2020; 1-5.
- Gallego GJI, Campillo CM, Carrion MA, Balanza S, Rodriguez GM, Simonelli M, et al. The Covid-19 pandemic and its impact on homebound nursing students. *Int J Environ Res Public Health*. 2020;17:2-12.
- Reverte VS, Ortega L, Lavedan A, Masot O, Burjales M, Ballester FD, et al. The influence of Covid-19 on the mental health of final-year nursing students: comparing the situation before and during the pandemic. *International Journal of Mental Health Nursing*. 2021; 1- 13.
- Savitsky B, Findling Y, Ereli A, Hendel T. Nursing students in crisis mode: Fluctuations in anxiety during the Covid-19-related lockdown. *Nurse Educator*. 2020; 46(3):33-8.
- Keener TA, Hall K, Wang K, Hulsey T, Piamjariyakul U. Quality of life, resilience, and related factors of nursing students during the Covid-19 pandemic. *Nurse Educator*. 2020;46(3):143-8.
- Eweida RS, Rashwan ZI, Desoky GM, Khonji LM. Mental strain and changes in psychological health among intern nursing students at pediatric and medical-surgical units amid ambience of Covid-19 pandemic: A comprehensive survey. *Nurse Educ Pract*. 2020; 49:1-8.
- Sun Y, Wang D, Han Z, Gao J, Zhu S, Zhang H. Disease prevention knowledge, anxiety, and professional identity during COVID-19 pandemic in nursing students in Zhengzhou, China. *J Korean Acad Nurs*. 2020; 50(4):533- 40.

How to cite this article:

Sevgi Keskin, Birgül Özkan. Mental statuses of nursing students in the Covid-19 pandemic period: A systematic review. *Ann Clin Anal Med* 2021;12(Suppl 2): S245-249